

Chapter 6 Review

Practice Distance and Midpoint Formula

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$mid.pt = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

Find the midpoint of the line segment with the given endpoints.

1) (1, 3), (3, 1)

2) (4, -5), (-6, 3)

Find the other endpoint of the line segment with the given endpoint and midpoint.

3) Endpoint: (-10, 10), midpoint: (-4, -4)

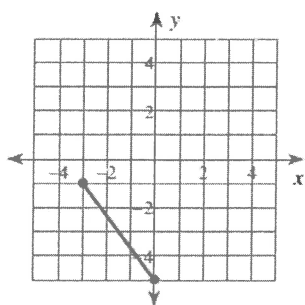
4) Endpoint: (-7, 6), midpoint: (10, 7)

Find the distance between each pair of points.

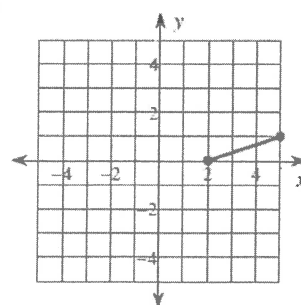
5) (-7, 0), (-2, 0)

6) (8, 1), (6, 5)

7)



8)



1) (2, 2)

2) (-1, -1)

3) (2, -18)

4) (27, 8)

5) 5

6) $2\sqrt{5}$

7) 5

8) $\sqrt{10}$

10. - CHAPTER 6 REVIEW NAME: _____ EX: 6.1

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- a) Explain what the slope, m , means in words.

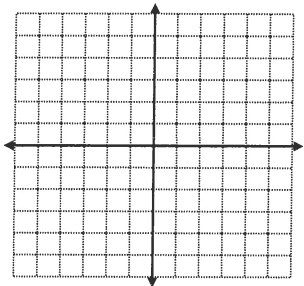
$$m = \frac{?}{?} \quad \Rightarrow \quad m =$$

- b) All horizontal lines have slopes equal to _____.

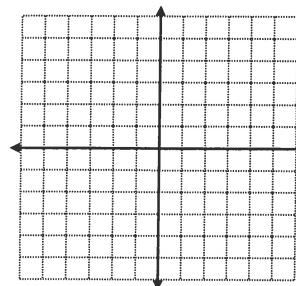
- c) All vertical lines have slopes that are _____.

Draw a line segment with slope equal to

a) $\frac{2}{3}$

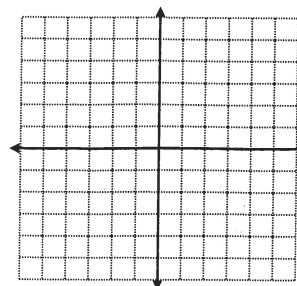


b) $-\frac{1}{5}$



- a) Use the slope formula to calculate the slope of the line that passes through $(-5, -3)$ and $(1, 2)$.

- b) Plot the points and draw a line segment to connect them. Verify your answer in a) by indicating the rise and the run on your graph.



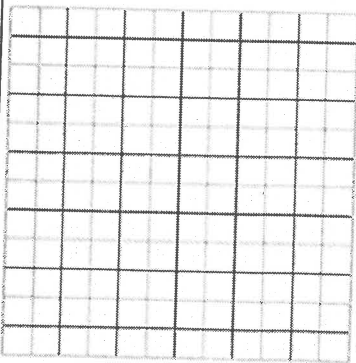
10: - CHAPTER 6 REVIEW NAME: _____ EX: 6.2

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Line AB passes through $A(-1, 3)$ and $B(9, -5)$. Line PQ passes through $P(-2, -1)$ and $Q(3, -5)$. Are these two lines parallel, perpendicular or neither? Explain your answer.

Determine the slope of a line that is perpendicular to the line through $C(0, -3)$ and $D(-1, 4)$.

The coordinates of the segment \overline{AB} are $(-2, 1)$ and $B(1, 3)$. Determine a possible coordinate for C so that $\overline{AB} \perp \overline{BC}$. (\overline{AB} is perpendicular to \overline{BC}). Explain your work.



10. - CHAPTER 6 REVIEW NAME: _____ EX: 6.4

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For each slope-intercept form of an equation, identify the slope and the y-intercept.

a) $y = \frac{1}{2}x + 5$

slope: _____

y-intercept: _____

b) $y = 3 - x$

slope: _____

y-intercept: _____

c) $y = 7$

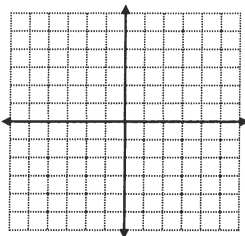
slope: _____

y-intercept: _____

Graph each line given the information below.

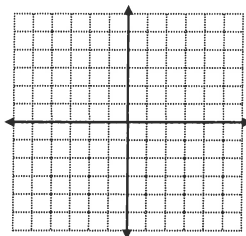
a) y-intercept = 2

slope = $-\frac{1}{3}$

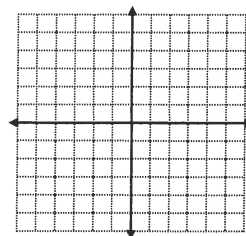


b) passes through $(0, -1)$

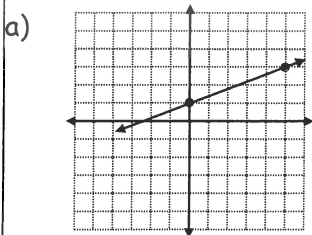
slope = $\frac{5}{4}$



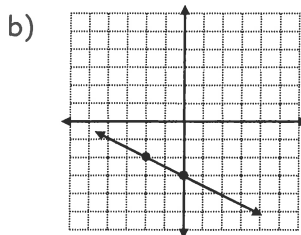
c) $y = 3x$



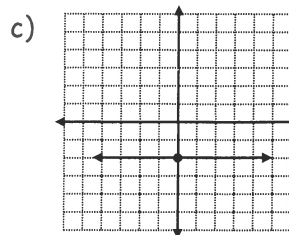
Write an equation to describe each of the following lines.



Equation:



Equation:



Equation:

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Given the slope-point form of equations of lines, identify a point the line passes through and the slope of the line.

a) $y - 3 = \frac{1}{4}(x + 1)$

point: _____

slope: _____

b) $y + 2 = -\frac{1}{3}(x - 2)$

point: _____

slope: _____

c) $y + 4 = (x + 6)$

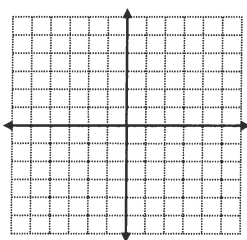
point: _____

slope: _____

Graph each line given the information below.

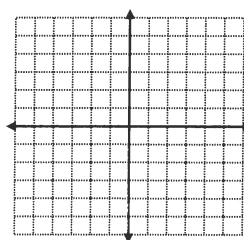
a) passes through $(3, -1)$

slope = $\frac{1}{2}$



b) x-intercept = 1

slope = $-\frac{3}{4}$



Write an equation for the line in slope-point form given the following information.

a) passes through $(-3, 5)$

slope = -4

b) passes through $(-1, 2)$ and $(5, -1)$

10⁵ - CHAPTER 6 REVIEW NAME: _____ EX: 6.6

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Write each equation in general form.

a) slope-intercept form

$$y = -\frac{3}{2}x + 5$$

b) slope-point form

$$y + 2 = \frac{4}{5}(x - 1)$$

Determine the x -intercept and the y -intercept for each of the following lines.

a) $2x - 3y + 12 = 0$

x -intercept: _____

y -intercept: _____

b) $4x + 2y - 1 = 0$

x -intercept: _____

y -intercept: _____

Write each equation in slope-intercept form.

a) $2x - 3y + 18 = 0$

b) $x + 3y - 12 = 0$

c) $5x - y + 11 = 0$